Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1602	438/767,769,775,795.ccls.	US-PGPUB; USPAT	OR	ON	2006/01/10 09:15
L2	710	1 and @ad<"20001124"	US-PGPUB; USPAT	OR	ON	2006/01/10 09:19
L3	1876	438/974,680,840,785.ccls.	US-PGPUB; USPAT	OR	ON	2006/01/10 09:15
L4	915	3 and @ad<"20001124"	US-PGPUB; USPAT	OR	ON	2006/01/10 09:15
L5	884	4 not 2	US-PGPUB; USPAT	OR	ON	2006/01/10 09:16
L6	3	(exposing and plasma and termination and depth and atomic). clm.	US-PGPUB; USPAT	OR	ON	2006/01/10 09:18
L7	0	(exposing and plasma and termination and depth and atomic)	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 09:18
L8	14	(exposing and plasma and depth and atomic)	USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/10 09:19
L9	3380	(exposing and plasma and depth and atomic)	US-PGPUB; USPAT	OR	ON	2006/01/10 09:19
L10	1195	9 and @ad<"20001124"	US-PGPUB; USPAT	OR	ON	2006/01/10 09:19
L11	1186	10 and surface	US-PGPUB; USPAT	OR	ON	2006/01/10 09:20

DOCUMENT-IDENTIFIER: US 20020098627 A1

TITLE: Surface preparation prior to deposition

parent application 09/944,734

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Claims Text - CLTX (2):

1. A method of depositing a film over a surface in a partially fabricated integrated circuit, comprising **exposing** the surface to products of a **plasma,** thereby modifying **termination** of the surface without significantly affecting bulk properties beneath the surface, and depositing a layer thereover after modifying the surface **termination**.

Claims Text - CLTX (10):

9. The method of claim 8, wherein the adsorption-driven process comprises **atomic** layer deposition (ALD).

Claims Text - CLTX (12):

12. The method of claim 1, wherein **exposing** comprises providing a flow of radicals from a remote **plasma** source to the surface.

Claims Text - CLTX (14):

14. The method of claim 1, wherein **exposing** does not appreciably affect bulk properties of material underlying the surface.

Claims Text - CLTX (15):

15. The method of claim 14, wherein the products of the **plasma** comprise nitrogen excited species, the surface overlies a semiconductor substrate, and the bulk substrate contains less than about 1 **atomic** % nitrogen.

Claims Text - CLTX (16):

16. The method of claim 14, wherein the products of the **plasma** comprise nitrogen excited species, the surface overlies a gate dielectric with a dielectric constant greater than about 4, and the gate dielectric comprises less than 10 **atomic** % nitrogen at about 10 .ANG. from the surface.

Claims Text - CLTX (17):

17. The method of claim 1, wherein **exposing** does not deposit a layer greater than about one **atomic** monolayer.

Claims Text - CLTX (18):
18. The method of claim 17, wherein **exposing** converts metal oxide to metal oxynitride no more than about 10 .ANG. from the surface.

Claims Text - CLTX (19):
19. A method of forming a transistor gate stack, the method comprising: forming a gate dielectric over a semiconductor substrate; **exposing** the gate dielectric to a source of nitrogen excited species, wherein **exposing** incorporates less than about 10 **atomic** % nitrogen at a **depth** of greater than about 10 .ANG. from an upper surface of the gate dielectric; and depositing a silicon-containing gate electrode over the gate dielectric after **exposing** the gate dielectric to the source of nitrogen excited species.

Claims Text - CLTX (22):
22. The method of claim 19, further comprising **exposing** a surface of the semiconductor substrate to a source of nitrogen excited species prior to forming the gate dielectric.

Claims Text - CLTX (23):
23. The method of claim 22, wherein **exposing** the surface of the semiconductor substrate forms less than about 10 .ANG. of silicon oxynitride.

Claims Text - CLTX (24):
24. The method of claim 23, wherein forming the gate dielectric comprising an **atomic** layer deposition.